

What is going on with climate change and health?

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Climate-events and health impacts are hitting closer to home each season. Ontario experienced 'Canada's first derecho¹ in decades' (1), impacting roughly 1000 km from southern Ontario to Quebec, and three related tornados on May 21, 2022 (2, 3). The storms' winds triggered Environment and Climate Change Canada (ECCC) to issue the first-ever broadcast-interrupted weather alert for thunderstorms (1, 4). The event caused extensive damage to property, agricultural operations, and loss of power to over 900 000 customers leading to significant health hazards. Ten fatalities have been reported (1, 4, 5). The economic cost is estimated in the tens of millions (6). Additionally, Ontario experienced three separate heat events activating heat warnings issued by ECCC during May, ahead of the typical 'heat season' which begins at the end of June.

These recent climate-events illustrate how climate change is impacting human health and well-being directly and indirectly. They are a stark reminder of the need for public health action and active involvement in addressing climate change, the biggest threat and opportunity to public health this century, and the need to strengthen public health's capacity to manage climate-health risks. This article provides an update on international, national, and provincial strategies and efforts that support climate-health action and capacity relevant to Ontario public health authorities.



Recent Climate-Health Initiatives

WHO Policy Brief on Mental Health and Climate Change

The World Health Organization (WHO) released a [mental health and climate change: policy brief](#). It outlines how key determinants of mental health are negatively affected by climate change and disproportionately impact people with pre-existing mental health conditions. It provides examples of mental health impacts and associated exposure pathways. A key message is that while there are gaps in understanding the impacts of climate change on mental health and psychosocial wellbeing, this cannot stall actions and that there is current knowledge sufficient to act (7).

Intergovernmental Panel on Climate Change, Sixth Assessment Cycle.

The Intergovernmental Panel on Climate Change (IPCC) has now released all three Working Group (WG) contributions associated with the [Sixth Assessment](#) cycle (AR6), providing a comprehensive update on the knowledge of climate change, impacts, risks, and response options. WG-I contributions, [Climate Change 2022: The Physical Science Basis](#) (referred to as 'code red for humanity') provides irrefutable evidence that changes to the climate are widespread, unprecedented, and will continue to worsen

¹ A derecho is a long-lasting, fast-moving thunderstorm with powerful and destructive winds that follow a straight line.

exponentially without action (8). It also illustrates the dire need for rapid, transformative and sustained climate action to reduce impacts on society and natural environment (8).

WG-II report, [Climate Change 2022: Impacts, Adaptation and Vulnerability](#), illustrates climate change as a threat to the health of humans and the planet (9). The report emphasizes urgent, immediate action to manage risks (including health risks) is required, and that human and planetary health are interrelated (9, 10). The report accentuates that all levels of governments, private and public sectors, must work together to reduce risk and ensure equity and justice in decision-making and investments (9, 10).

WG-III contributions, [Climate change 2022: Mitigation of Climate Change](#), presents an update on mitigation progress and sources of emissions, including a new chapter on social aspects of mitigation (11). The report stresses that all sectors have options to reduce emissions by at least half by 2030, that the next three years will be critical to limit warming to 1.5°C and provides examples of effective options (11, 12).

Health of Canadians in a Changing Climate: Advancing Out Knowledge for Action

Health Canada's [Health of Canadians in a Changing Climate: Advancing Our Knowledge for Action](#), examines the most recent evidence on the health risks related to climate change as well as [adaptation options](#) to protect health in the face of climate change (13). It includes current and projected climate-health risks, the relationship between climate change and determinants of health and how this impacts vulnerability, health equity and adaptive capacity. There are distinct chapters on [Indigenous peoples' health](#), and [mental health and wellbeing](#) though these issues are interwoven throughout the report. It is the first comprehensive report on climate-health impacts for Canadians since 2008, and part of an even more extensive, collaborative national assessment, [Canada in a Changing Climate: Advancing our Knowledge for Action](#) led by Natural Resources Canada (14).

The report is intended to provide decision makers, health professionals, researchers and individual Canadians with evidence-based information required to plan for and take action to reduce the risk and increase resilience in the face of climate change (13, 14). [Supplemental resources](#), including fact sheets, decision-maker briefing notes (e.g., [Public health professionals](#)), presentations, and [other communication resources](#) (e.g., infographics), can support public health authorities' efforts and increase awareness of the need to address climate change and associated health co-benefits. The report and supplemental resources have specific findings and actions to strengthen public health efforts; for example [actions for public health actors to address climate change and improve health equity](#), and the [map of adaptation actions](#). This information should be used to influence levels of government and other partners and stakeholders to amplify the health argument for climate action.

GTA Climate Change & Health Meeting:

To support public health climate action, six GTA health units met in May 2022. The meeting supported information sharing, the discussion of roles for climate action and public health and identified opportunities for mutual support. The meeting highlighted work being done as outlined within the Ontario Public Health Standards (e.g., surveillance, health communication), and innovative research and collaborations. Discussions highlighted the need to increase capacity to respond to climate events and health risks (internal adaptation), reduce public health's emissions (internal mitigation), and engage in municipal and community activities that encourage equitable climate action and associated health co-benefits. Common challenges identified included shifting provincial priorities, availability of consistent metrics, and opportunities for knowledge sharing and collaboration. The group plans to convene again in the fall.

Strategies Addressing Climate-Health Risks

Extreme Heat Preparedness

Canada is learning from the extreme heat emergency in British Columbia in 2021. Evidence and lessons learned from the BC Heat Dome are being shared through webinars hosted by the Canadian Heat Health Community of Practice and retrospective analysis, such as [Analysis of community deaths during the catastrophic 2021 heat dome](#) (15). BC is strengthening its Heat Alert and Response System (HARS), including a new [Extreme Heat Preparedness Guide](#). The experience and findings should be used to inform public health preparedness and HARS in Ontario.

Ontario public health units have been engaged by Health Canada's heat health division and ECCC in annual pre-heat season workshops that support health units prepare for the upcoming heat season.

The Intact Centre on Climate Adaptation, an applied research centre at the University of Waterloo released [Irreversible Extreme Heat: Protecting Canadians and Communities from a Lethal Future](#), in April 2022. This guide presents adaptive actions across three categories: behaviour, nature based, and buildings and infrastructure (16).

How do you Handle the Heat? Research Initiative

The Human and Environmental Physiology Research Unit at the University of Ottawa recently launched a **Canada-wide survey** on knowledge, risk perceptions, attitudes, and practices related to heat stress among older adults. The results of this survey will help increase awareness and knowledge about the importance of heat stress prevention and management as a public health priority. In addition, the findings will assist in directing the development of future protections by supporting the development of additional laboratory simulations, improving heat alert response systems, and enhancing health promotion and heat-health communication programming. The survey is open to anyone that resides in Canada and is **50-85 years of age**. **Please consider distributing the survey through your organizational and professional networks to encourage those 50-85 years of age to complete this important survey.** The survey can be completed in [English](#) or [French](#).



Making the Climate-Health Connection Stronger

Many existing and emerging public health efforts support climate action and public health's capacity to manage climate-health risk. Enhancing climate-health lens in this work would further support public health capacity and increase public and stakeholder awareness of how climate change is impacting health. Below are two examples of public health efforts that support climate action particularly if the climate-health connection is strengthened.

Taking Action to Address Legionella

Increasing frequency of heavy precipitation and rising temperatures associated with climate change could increase the risk and exposure to Legionella bacteria causing increases in the number of outbreaks

of legionellosis (17). The recommendation for a cooling tower registry presented in the [ALPHA RESOLUTION A22-3 Provincial Cooling Tower Registry for the Public Health Management of Legionella Outbreaks](#) approved by the 2022 AGM is an example of climate-health adaptation.

World Tobacco Day – focus on environmental health perspective

This year's World No Tobacco Day (May 31st) theme, *Tobacco: Threat to our environment* drew attention to commercial tobacco's devastating impacts on the environment. Ontario health units promoted this message, and the province's Tobacco Control Area Networks collaborated on a social media campaign to further support the key messages of the [World Health Organization](#) and raise awareness of the industry's devastating harms to the environment amongst youth and young adults.

These are all examples of recent efforts that support climate-health work and capacity in Ontario.

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